THE

HICKOK

ELECTRICAL
INSTRUMENT
COMPANY

OPERATING INSTRUCTIONS

FOR

DYNAMIC MUTUAL CONDUCTANCE TUBE TESTER

MODEL 532

CHOICE OF THE EXPERTS FOR SPEED, ACCURACY and DEPENDABILITY...

OPERATING INSTRUCTIONS

FOR

DYNAMIC MUTUAL CONDUCTANCE TUBE TESTER

MODEL 532

THE HICKOK ELECTRICAL INSTRUMENT COMPANY

10514 Dupont Ave.
Cleveland 8, Ohio

Form 532-12-54

HICKOK MODEL 532 DYNAMIC MUTUAL CONDUCTANCE TUBE TESTER

PACKER'S CHECK

MODEL 532 TUBE TESTER

SERIAL NUMBER _____

INSTRUCTION BOOK, MODEL 532 _____

DATE _____

SIGNED _____

PACKER

NOTE

READ INSTRUCTIONS CAREFULLY BEFORE ATTEMPTING TO OPERATE THIS TUBE TESTER.

SECTION I

DESCRIPTION

1. PURPOSE.

a. The Model 532 Tube Tester is used to test and measure mutual conductance values of vacuum tubes used in radio receivers and transmitting tubes delivering less than 25 watts of power.

b. The Model 532 Tube Tester is fundamentally of the Dynamic Mutual Conductance type designed to provide either REPLACE - GOOD readings or mutual conductance values in micromhos. Provision is made for locating shorts and leakages between tube elements. A sensitive noise test is also provided.

c. Mutual conductance values in three ranges can be measured: 0-3000, 0-6000, and 0-15,000 micromhos. Included in this tube tester is an ENGLISH reading range. By means of this range, a good tube will cause the pointer of the indicating meter to rest in the GREEN (GOOD) sector of the meter scale. A bad tube will read in the RED (REPLACE) or doubtful (?) sector.

d. Gas Test: Provision is made to test amplifying vacuum tubes for gas content. Gassy tubes will ruin the automatic volume control or intermediate stages of a radio receiver.

2. TUBE COMPLEMENT. -- The Model 532 requires one #83 mercury vapor rectifier and one 5Y3GT vacuum rectifier tube for its operation. These tubes are supplied and installed in the tube tester. The fuse lamp is a standard #81 auto lamp. The neon lamp is a G.E. 1/4 watt, 105-125 volts, candelabra base.

SECTION II

FUNCTIONS OF THE COMPONENTS

3. LINE VOLTAGE ADJUSTMENT. -- The Model 532 Tube Tester operates from A.C. power lines of 105 to 125 volts, 60 cycles. After the power is turned on, press the push switch P7 (LINE ADJ.) which will cause the indicating meter pointer to move up scale. The button P7 is held down and the knob, LINE ADJUST, is turned until the meter pointer rests exactly over the mark, LINE TEST, at 1500 on the meter scale. This establishes standard voltages to the tube elements. This adjustment is made with the control settings properly arranged for the tube being tested and with the tube in its test socket.

4. SELECTORS. --The row of selector dials across the center of the control panel is for the purpose of conducting proper voltages to the tube's base pins. The operation of setting these dials is similar to DIALING A TELEPHONE NUMBER. On the roll data chart, below the word SELECTORS, appear the dialing numbers. These dialing numbers consist of two letters and five figures. Example: JR-6237-5. Starting at the left, the first dial is turned until the letter "J" appears through the window. The second dial is turned until "R" appears. The

third dial indicates 6; the fourth, 2; the fifth, 3; the sixth, 7 and the seventh, 5. The lettered dials control the filament or heater connections. The numbered dials control the GRID, PLATE, SCREEN, CATHODE and SUPPRESSOR in that order. In the example given above the heater terminals are connected to pins 8 and 1. The GRID is connected to pin 6; PLATE, to pin 2; SCREEN, to pin 3; CATHODE, to pin 7 and SUPPRESSOR, to pin 5.

These dial switches are electrically interlocked in such a way that it is impossible to connect two different voltage elements to the same pin. Thus accidental shorts are avoided.

The dialing system is designed so that a minimum of dial setting is required. For example, the heater setting is practically always JR so that these two dials seldom need resetting. It will also be noticed that when testing duo-diode triode tubes the amount of dialing has been reduced to a minimum.

5. SHORT TEST.--Turning the SHORTS switch successively through the positions 1-2-3-4-5 connects the various pairs of elements in turn across the test voltage. Tubes having shorted elements will complete the circuit and cause the neon SHORT lamp to glow. Tubes may be tested for shorts, either hot or cold.

A short is indicated by a steady glow of the neon lamp in certain positions of the SHORTS switch. A momentary flash of the lamp as the switch is turned from one position to another should be disregarded. This flashing is caused by the charging of a capacitor in the test circuit. A shorted tube should be discarded without further test.

6. LOCATING SHORTED ELEMENTS. -- In the following table (X) under any SHORT switch position indicates that the neon lamp glows in that position.

KIND OF SHORT	1	2	3	4	5
FIL -- CATHODE			X		
FIL -- GRID	X	X			X
FIL -- PLATE	X	X		X	X
FIL -- SCREEN	X		X	X	X
FIL -- SUP		X			
GRID -- CATHODE	X	X	X		X
GRID -- PLATE				X	
GRID -- SCREEN		X	X	X	
GRID -- SUP	X				X
PLATE --- SCREEN		X	X		
PLATE -- SUP	X			X	X
SCREEN -- SUP	X	X	X	X	X

7. NOISE TEST. -- The short test circuit is also used in making noise tests on vacuum tubes. Connections are made from the noise test jacks to the antenna and ground posts of any radio receiver. The tube under test is tapped with the finger as the SHORTS switch is turned through positions 1-2-3-4-5.

Intermittent disturbances which are too brief to register on the neon lamp will be reproduced by the loud speaker as static.

8. GAS TEST.--The push switch P5 (Gas 1) and P6 (Gas 2) are used to test an amplifier tube for gas content.

a. The MICROMHO switch is set on 3000.

b. The push switch P5 is pressed and held down while the BIAS dial is turned to cause the pointer of the indicating meter to read 100 micromhos.

c. P5 is held down and P6 is pressed.

d. If the tube contains gas the meter pointer will move up the scale. If the pointer movement is not more than one small division of the scale the gas content is satisfactory.

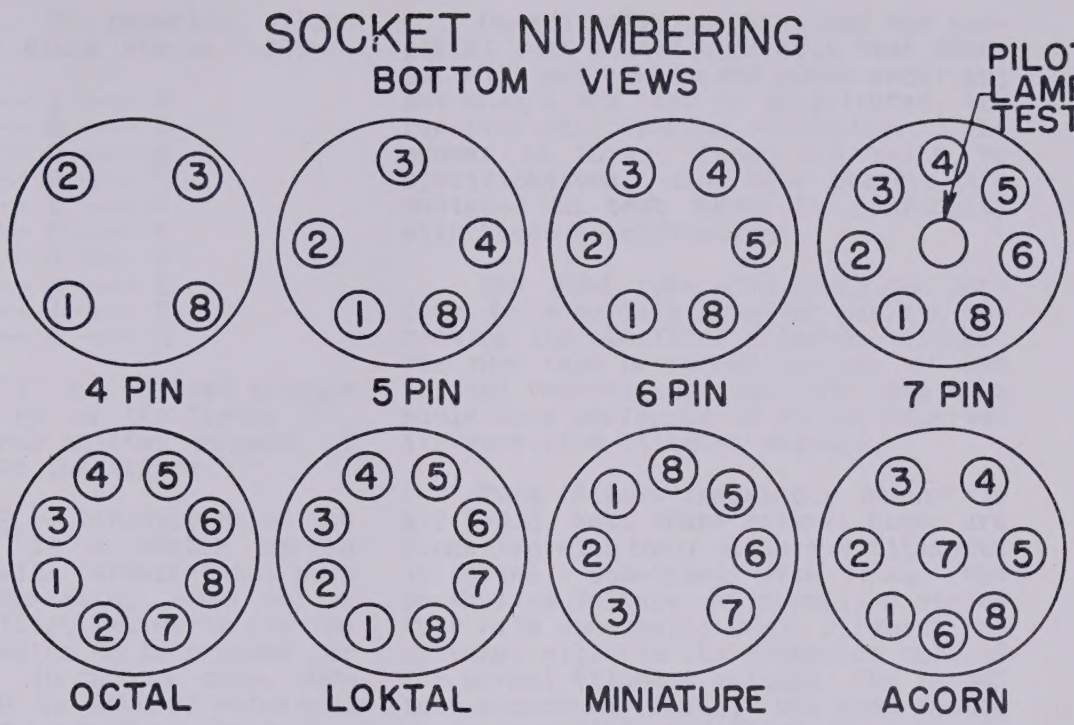
NOTE

With some tubes, such as the type 45, the micromho reading cannot be brought down to 100 by turning the BIAS dial. In such a case turn the BIAS dial to 100 and test for gas.

Some tubes develop gas after being heated for a period of time. If a tube is suspected, allow it to heat for a few minutes.

9. DYNAMIC MUTUAL CONDUCTANCE.--The push switch P4 is used when testing for mutual conductance value. The indicating meter will register the tube's value in MICROMHOS in three ranges: 0-3000, 0-6000 and 0-15,000. The range to be used is controlled by the MICROMHO switch. When measuring micromhos in any of the three ranges listed above, no setting of the ENGLISH dial is required.

The fourth range, ENGLISH, on the MICROMHO switch is used when it is desired to test the tube in terms of GOOD-



REPLACE. In this case the ENGLISH dial must be set in accordance with the figures given on the data chart under the heading, ENG. When using the ENGLISH range, good tubes will cause the meter pointer to read in the GOOD sector. Worn out tubes will read in the REPLACE sector. Those tubes which read in the sector marked (?) have some useful life but should be replaced soon. The ENGLISH reading scale is also based on Dynamic Mutual Conductance. It is not an emission test.

The Micromho values printed on the data roll are average values. A small variation above or below these average values is to be expected even with new tubes.

The ENGLISH scale is designed to make tubes read at the left edge of the GREEN (GOOD) sector when 20% below average for amplifier tubes and 35% below average for power tubes.

10. RECTIFIER TEST. -- The push switches P1, P2 and P3 are used to test various types of rectifier elements.

a. The push switch P1 is used when testing detector diodes. It applies a low voltage which will not injure the delicate cathode. Good diodes will cause the meter pointer to read above the mark, DIODES OK.

b. Push switch P2 is used when testing cold cathode rectifiers such as the 0Z4. This applies a voltage sufficiently high to ionize the tube and start conduction. Good tubes will read in the GREEN (GOOD) sector of the meter.

c. Push switch P3 is used when testing ordinary rectifier tubes such as the 5Y3. This switch applies a medium voltage which is best adapted to reveal defects in this type of tube. Good tubes will read in the GREEN (GOOD) sector of the meter.

NOTE

On the data chart a star (✱) following P1, P2, and P3 indicates that the MICROMHO switch is to be set on ENGLISH.

11. SOCKET NUMBERING. -- In order to reduce dialing to a minimum, the sockets in the Model 532 Tube Tester are numbered as shown in Plate 1, which shows

the bottom views. The numerical values of the lettered dials are as follows:

0 ----	A ----	P
1 ----	B ----	R
2 ----	C ----	S
3 ----	D ----	T
4 ----	E ----	U
5 ----	F ----	V
6 ----	G ----	W
7 ----	H ----	X
8 ----	J ----	Y
9 ----	K ----	Z

The letter "I" was omitted because of its resemblance to the figure "1". The letter "Q" was omitted because of its resemblance to the figure "0".

12. METER REVERSE. -- Directly below the indicating meter is a switch marked REVERSE-NORMAL. With certain tubes such as the 117N7, the meter, when set on NORMAL, will deflect backwards (to the left) when push switch P3 is pressed for rectifier test. In such a case, turn the meter switch to REVERSE which will cause the pointer to move up the scale. After this test has been made, return the switch to NORMAL.

13. TOP CAPS. -- There are two jacks in the upper center of the control panel marked GRID and PLATE. These are used when making connection to the top cap of the tube being tested. On the data chart in the NOTATIONS column opposite tube types having top caps, is the notation CAP=G or CAP=P. G means that the top cap is connected to the GRID and P, to the PLATE jack.

NOTE

The center of the seven pin socket is used to check pilot lamps. Voltages up to 12.6 are available for pilot lamp test. These voltages are controlled by the filament switch. No further switch setting is necessary.

14. SPECIAL NOTES. -- Power line voltage varies with different localities. It may also vary with the different hours of the day.

While a national survey indicates that the average voltage for the USA is about 113 to 115 volts, it does not mean that every locality maintains a constant voltage at that level.

Occasionally we have had the complaint that a used tube will test GOOD, but will not work in the radio receiver; but when a NEW tube is substituted, the receiver will operate correctly. The answer is this: Tubes are built to specifications. Our tube testers are designed to test tubes in conformity with these specifications.

The used tube that would not perform in a certain receiver was not receiving its specified filament voltage. The new tube performed because of its initial reserve capacity. The used tube would have performed if it had received its specified filament voltage.

Tube failure frequently occurs in A.C.--D.C. sets where several tubes are connected with their heaters or filaments in series. Sometimes, even though the power line voltage is normal, a series tube with abnormally high filament resistance will rob its companion tube of its normal filament voltage. The robbed tube apparently fails; but when tested under specified conditions, the tube will test GOOD.

15. The wonderful versatility of the Hickok Dynamic Mutual Conductance Tube Tester makes possible a special test that will reveal a tube's ability to perform under adverse conditions as mentioned above. This is possible because the tester measures mutual conductance instead of emission.

THE TEST.

a. Measure the mutual conductance in the ordinary way.

b. Set the MICROMHO range switch on ENGLISH.

c. Press P4 and adjust the ENGLISH dial until the tube reads in the GREEN (GOOD) sector at 2000 on the scale.

d. While holding everything else constant, reduce the FILAMENT voltage and note new reading.

e. If the meter still reads in the GREEN (GOOD) sector, the tube has a large life reserve and will perform satisfactorily.

f. The filament voltage reductions to be made are shown in the following table:

NORMAL FIL. VOLTS	REDUCE TO
1.5	1.1
2.0	1.5
2.5	2.0
3.0	2.5
5.0	4.3
6.3	5.0
7.5	6.3
10.0	7.5
12.6	10.0
35.0	25.0

16. CONTINUITY TEST.--The Model 532 Tube Tester can be used to test for continuity through resistance up to 200,000 ohms.

a. Set SHORTS switch on position 4.

b. Connect two leads having prods and pin tips to the jacks marked PLATE and GRID.

c. Touch the prods to the terminals through which continuity is to be determined.

d. The neon lamp will glow if circuit is continuous.

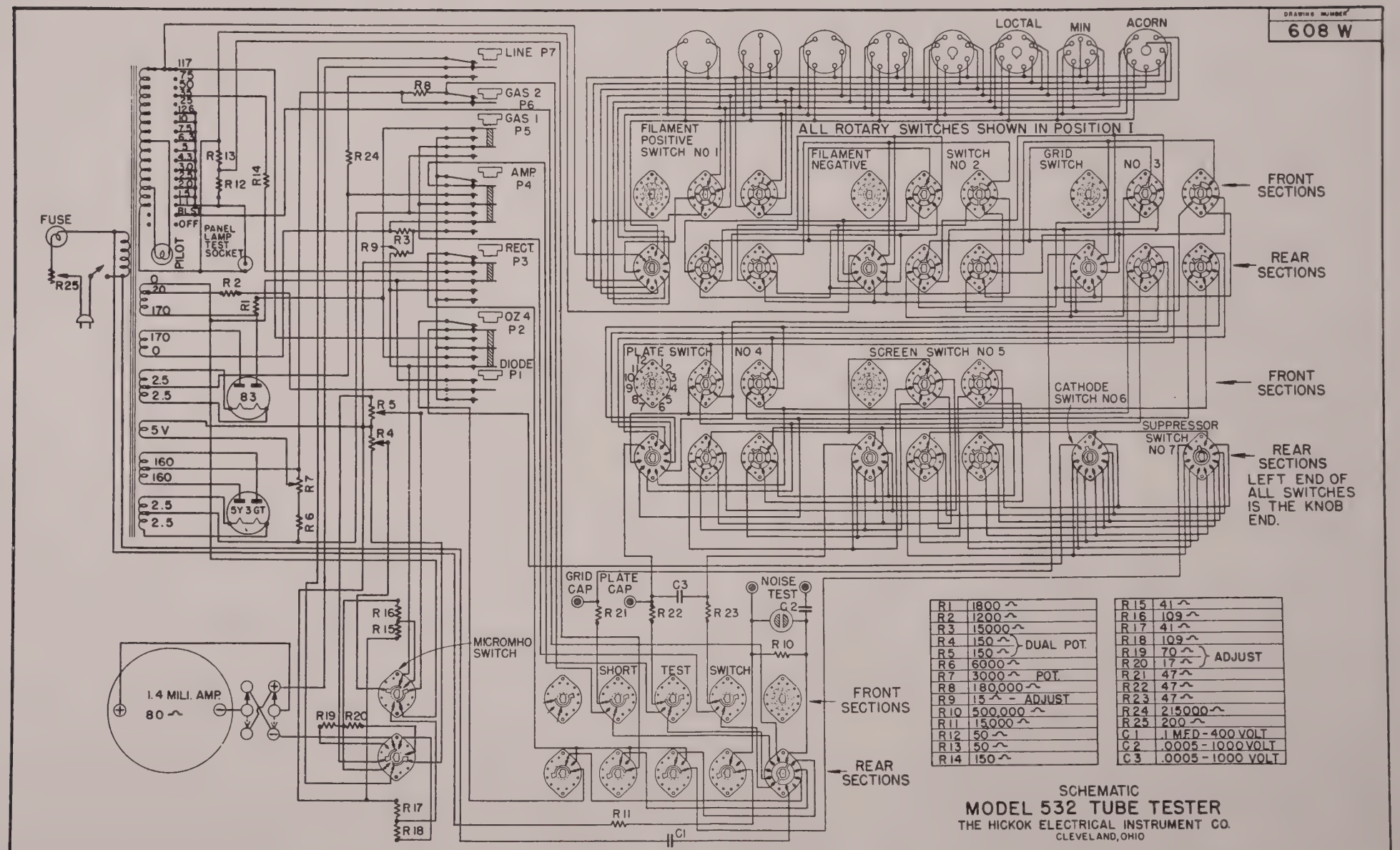
TO TEST BALLAST TUBES

1. Turn Tester on.
2. Set filament switch to BLST.
3. Set SHORT TEST switch on 1.
4. Set first selector switch (lettered A to K) to letter shown in column marked (first selector switch).
5. ROTATE second selector switch (lettered P to Z) from P to Z. NEON LAMP SHOULD LIGHT IN POSITIONS NOTED.

TUBE TYPE	First Selector	Neon lamp should light in these positions.						
1A1-1B1-1C1-1E1-1F1-1G1-1J1-1K1-1L1-1N1-1P1-1Q1-1R1G-1S1G-1T1G-1U1G-1V1-1Y1-1Z1-2	J	R						
2UR224	J			T				X
2LR212	H	R	S		U			
3	J	R						
03G	J			T				
4-5	J	R						
6-133	J			T				
6-6AA	J	R						
7-8-9	J	R						
10A-10AG	J			T				
10AB	J			T				X
K17B-M17C-BM17C	J			T				X
M17HG-M17H	J D	R	S					X
K23B-K23C-KX23B-KX30C	J			T				X
M30H	J D	R	S					X
30A-K30A	J			T				
K30D	J	R		T				X
33A-33AG	J			T				
K34B	J			T				X

TUBE TYPE	First Selector	Neon lamp should light in these positions.						
36A	J			T				
K36B-BK36B-L36C-BM-L36C-KX36C	J			T				X
KX36A	J	R						
36D-L36D	J	R		T				X
L36DJ	J	R		T	U			X
K36H-M36H-M36HG	J D	R	S					X
L40S1-L40S2	J	R		T		V		
42A	J			T				
42A1	H				U			
42A2-42B2	H		S		U			
K42B-L42B-M42B-KX42B-LX42B-L42BX-K42C-L42C-M42C	J			T				X
KB42D-K42D-L42D	J	R		T				X
LX42D-L42DX	J	R	S	T				
K42E-L42E	J			T				X
L42F	J D	R						X
42HA-K42HJ-M42H-M42HG	J E	R	S	T				X
KX42C	J			T				X
L42S1	J	R		T		V		
49A-49AJ-K49AJ	J			T				
KX49A	J			T				X
49A1	H				U			
49A2-49B2	H		S		U			
K49B-L49B-M49B-BM49B-K49C-M49C-BM49C-BK49C-K49E-L49E	J			T				X
K49D-BK49D-L49D	J			T				X
L49F	J D	R						X
M49H-M49HG	J D	R	S					X
KZ49B-KZ49C	J	R				V		
K49BJ-L49BJ	J			T	U			X
L49S2	J	R		T		V		
49AJ-K49AJ	J			T				
KX49B-LX49B-LX49C	J			T				X
L49DJ	J	R		T	U			X
L49S3	J	R		T		V		
50A2	J	R		T				
50A2MG-50B2	J	R				V		
50X3	J	R						
K52H-M52H	J D	R	S					X

TUBE TYPE	First Selector	Neon lamp should light in these positions.						
K54B	J			T				X
55A-K55A	J			T				
55A1	H				U			
KX55A	J	R						
55B-K55B-M55B-BM55B-L55BG-LX55B	J			T				X
55A2-55B2	H		S		U			
K55C-L55C-KX55C	J	R		T				
K55CP	J			T		V		X
K55D-L55D	J	R		T				X
L55E-M55E	J			T				X
L55F-M55F-BL55F	J D	R						X
K55H-M55H-M55HG	J D	R	S					X
L55S1-L55S2	J	R		T		V		X
60R30G	J	R		T				
64.23	J			T				
67A	J			T				
K67B-L67B	J			T				X
L73B-K74B-L74B-CX74C	J			T				X
80A	J			T				
K79B-K80B-M80B-K80C-KX80B-L80B	J			T				X
K80F	J D	R						X
KX87B-LX87B-L90B	J			T				X
K90F-M90F-K92F-M92F	J D	R						X
92A	J			T				
L92B-95K2	J			T				X
L99D	J	R		T				X
100R8	J			T				X
120R	J	R						
120RS-135K1	J			T				X
135K1A	J			T	U			X
140L4-140L8-140R4-140R8	J	R		T				
140R	J	R						
140L44-140R44	J	R	S	T				
165L4-165R4-165R8	J	R		T				
165R	J	R						
165L44-165R44	J	R	S	T				
185L4-185L8-185R4-185R8	J	R		T				
185R	J	R						
185L44-185R44	J	R	S	T				
200R-250R	J	R						
250R8-290L4	J			T				X
300R4-320R4	J			T				X
340	J	R						
808-1	J			T	U			X
E14980-W43357-W4588-3613	J			T				X
3334-3334A	J	R		T				X
8593-8598-8601-8664	J			T				X
3ER248	J	R		T	U			X
3CR241	J	R		T				X



R1	1800 ~	
R2	1200 ~	
R3	15000 ~	
R4	150 ~	DUAL POT.
R5	150 ~	
R6	6000 ~	
R7	3000 ~	POT.
R8	180,000 ~	
R9	15 ~	ADJUST
R10	500,000 ~	
R11	15,000 ~	
R12	50 ~	
R13	50 ~	
R14	150 ~	

R15	41 ~	
R16	109 ~	
R17	41 ~	
R18	109 ~	
R19	70 ~	ADJUST
R20	17 ~	
R21	47 ~	
R22	47 ~	
R23	47 ~	
R24	215000 ~	
R25	200 ~	
C1	.1 MFD - 400 VOLT	
C2	.0005 - 1000 VOLT	
C3	.0005 - 1000 VOLT	

SCHEMATIC

MODEL 532 TUBE TESTER

THE HICKOK ELECTRICAL INSTRUMENT CO.
CLEVELAND, OHIO

TITLE SCHEMATIC			
USED ON 532 TUBE TESTER			QUANTITY
MATERIAL		SAE 8R	SCALE X SIZE
TEMPER		FINISH	DATE 12-18 1945
DRAWN SS	CHECKED	APPROVED JRB	PART NUMBER 608W

Schematic Drawing of Model 532 Tube Tester

Use For 532

HICKOK
TUBE TESTER CALIBRATION PROCEDURE

Purpose: To accurately calibrate tube testers by factory standardized methods.

Methods: The following procedure is that which is observed by the factory for calibration of tube testers (new or repair). Any references to switches or meters will correspond to the drawing of the test rack (sometimes referred to as "voltage standard") accompanying this procedure. This test rack is a standard used to simulate mutual conductance conditions as well as to provide checks on various voltages supplied by the tube tester. In addition to the test rack, a 6L6 tube of known MUTUAL CONDUCTANCE is required. This tube can be checked and standardized here at the factory for your purposes.

Procedure: The following is a step-by-step procedure (generalized) for calibration of Hickok tube testers:

PLATE VOLTAGE CALIBRATION

1) Switch the test rack on by throwing toggle switch (A).

2) The mutual conductance standard switch (I) should be placed in the "UP" position; this activates the plate voltage meter (No.4).

3) The tube tester to be calibrated is placed in front of the test rack and the selector switches are set up in such a manner as is required for a type 6L6 tube; that is, JR-5347-2. Set both the English and Bias dials at zero.

4) Insert the 8-prong octal plug from the test rack into the corresponding tube socket on the tester.

5) Push button P4 and adjust the line potentiometer until the plate voltage, as indicated by the test rack meter (No.4), reads 150 volts ($\leq$ 2 volts).

6) Leave the line voltage potentiometer at this setting and check on the underside of the tube tester to see whether a resistor spool has been provided for meter line test adjustments.

7) If the push button switch has 2 spools attached, one of these is for this purpose. The resistor spool with a resistance of approximately 400 to 420 ohms is the one to be used. The other one with a resistance of approximately 40 ohms is used for rectifier tube calibration. In some of the tube testers, however, instead of the resistor spools you will find ceramic or carbon resistors used for this purpose. To obtain the correct plate voltages in this case it is usually necessary to either shunt or series this resistor with a calibrating resistor; the critical value of which can be obtained by using a decade box.

8) Check the screen voltage. It should fall at 130 volts (± 2 volts). If it does not, it may be necessary to change the plate voltage (within it's tolerance) in such a manner as to split the difference existing so as to bring the screen voltage to it's correct (within tolerance) value.

9) At any rate to calibrate the screen and plate voltages it is necessary to push the line test button and remove turns from the aforementioned spool or correct the calibrating resistor until the tube tester meter reads exactly at the line. The tube tester has now been calibrated for plate and screen voltages. On tube testers not having these spools or resistors, it will be necessary to age the tester meter to the line test by use of an A. C. magnetic ager.

BIAS VOLTAGE CALIBRATION

1) On the bakelite panel over the transformer is a 8,500 ohm 10 watt resistor with one or two sliders. One of these slider contacts is for the bias voltage and the other is for the low screen voltage (not in all testers). Turn the bias dial fully clockwise and adjust the bias voltage to read 40 volts (± 2 volts) on the voltage standard bias volt meter (No.2). (Caution should be observed to have this meter on it's high range).

2) Turn the bias dial back to zero and adjust the other slider for 56 volts on the screen voltmeter (No.3). On tube testers of this type it is necessary to push button P1 as well as button P4. (simultaneously) for this adjustment. This activates a voltage divider circuit so that the voltage is reduced to 56 volts.

3) Set the bias dial at 22 and bend the center arm of the bias pot so that the bias voltmeter (No.2) reads a negative 3 volts. Care must be exercised to aviod damage to the winding when bending this arm. (On old type testers with the "A" and "B" Selectors, set the bias dial at 18).

FILAMENT VOLTAGE TEST

Set the filament selectors to JR; insert probes from an A.C. voltmeter into pins 2 and 7 of the octal socket. Set the voltmeter to the correspondingly correct ranges and check to see whether the filament voltages supplied by the tester are within tolerances.

ENGLISH POTENTIOMETER CALIBRATION

1) Remove the voltage standard plug from the octal socket and plug in the calibrated 6L6 tube with the bias and English dials set at the tube tester chart setting for a 6L6 tube.

2) Insert cardboard or some other material under the dial of the English potentiometer so as to hold it rigidly in place at the correct reading on the dial as per arrow on the panel.

3) The English potentiometer is made up of two separate potentiometers on a common shaft; the bottom one is movable. Hold down P4 and move the bottom section of this potentiometer until the tube tester meter reads the predetermined value of the standard 6L6 tube. The English pot has now been calibrated; however, to assure that this potentiometer will stay fixed in this position it is necessary to solder the two potentiometers together.

4) Remove the 6L6 tube and insert the plug from the voltage standard unit into the octal socket on the tester.

5) Throw switch (I) to the down (mutual conductance standard) position.

6) Throw switch (G) to the down (10,000 ohms) position.

7) Bar knob switch (J) should be in the extreme clockwise direction (50 volts position); adjust the variac until the mutual conductance standard meter (No. 6) reads 50 volts exactly.

8) Check the line test - readjust if necessary.

9) Push button P4 and rotate the English dial until meter reads 1000, for testers of 5 volts signal, or 2000, for testers of $2\frac{1}{2}$ volts signal, on the 3000 micromho range: (signal voltage can be checked by using V.T.V.M. (no. 5), switch (E) and control (F).

10) This is the correct position for the <u>first dot</u> on the English dial of a type 600-A tester. In other words, we have just calibrated the English potentiometer for the correct setting of English to control the 0-3000 micromho range.

11) Remove the plug from the voltage standard and replace the 6L6 tube in the tester.

12) Leave the English dial at the first dot which we have just calibrated and press P4 while rotating the bias dial until the meter reads 3000 or full scale (this will usually be around 40) then turn the English dial until the meter reads 3000 on the 6000 range; this is now the correct position for the second calibration dot. In other words, we have now calibrated the zero to 6000 micromho range for the correct English potentiometer position.

13) Now rotate the English dial so that the meter reads 3000 on the 15,000 micromho range, this is now the corresponding setting for the third or last calibration dot. This value of English is used for controlling the full scale 0-15,000 micromho range.

<u>NOTATIONS</u>:

The above calibration procedure is for testers of the 600 series; the same procedure should be followed for those testers having a

separate micromho switch except for the initial setting of the mutual conductance standard where the ENGLISH DIAL IS ADJUSTED TO 2000 ON THE FIRST RANGE. After the 6L6 tube has been placed in the tester and the bias dial adjusted to full scale, the English-micromho switch is switched to each of the micromho ranges and the meter should read at 3000 on each of these ranges. If such is not the case, then the spool for each range will have to be increased or lowered so that the meter will read at the proper settings. Care must also be observed when changing values of these spools that an overall unbalance is not caused.

The following is a list of testers using 30 volt, 6000 ohms (mutual conductance standard), and 50 volt, 10,000 ohms settings:

5 Volt Signal 30 Volts - 6,000 Ohms	25 Volt Signal 50 Volts - 10,000 Ohms
Model - 600	Model - 533A
532	600A
533	605
534A	605A
534B	

The above methods have been generalized so as to include most testers. It is, however, recommended that reference be made to individual calibration procedures for each tester under question. These calibration procedures are readily available at the factory for most testers.

cem

MP MASTER
MA21394